Sexual Dysfunction in Male Operation Enduring Freedom/ Operation Iraqi Freedom Patients With Severe Post-Traumatic Stress Disorder

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ABSTRACT The medical records of Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans who entered the post-traumatic stress disorder (PTSD) residential recovery program were retrospectively reviewed for presence of diminished libido, erectile dysfunction, and ejaculatory delay. Of 53 patients, 39 reported diminished libido, 26 reported erectile dysfunction, and 8 reported ejaculatory dysfunction. This rate of prevalence is comparable to that observed in prior studies of patients with chronic PTSD of many years duration, suggesting that the mechanism underlying such dysfunction is directly related to PTSD rather than age, other health concerns, chronicity of PTSD symptoms, or lifestyle. Severe PTSD is sufficient in and of itself to engender clinically significant sexual dysfunction of sufficient severity as to impair quality of life.

INTRODUCTION

It has long been recognized that many individuals suffering from post-traumatic stress disorder (PTSD) also experience a loss of sexual function.[1-3] Literature predating the diagnosis of PTSD in diagnostic nomenclature refers to trauma-related sexual dysfunction.[4,5] Letourneau et al.[6] reported that over 80% of the study's combat veteran patients "... were experiencing clinically relevant sexual difficulties." Indeed, Green[7] has argued that impaired libido should be one of the diagnostic criteria for PTSD, noting that 69% of his study sample suffered from significant loss of libido. Cosgrove et al.[8] found that Viet Nam combat veterans with PTSD had significantly more sexual dysfunction than did their non-PTSD combat veteran controls. Thus, it does not seem to be exposure to trauma per se that engenders the sexual dysfunction.

While anxiety of various types has been etiologically associated with sexual dysfunction, Kaplan[9] reports that "Anxiety concerning sexual performance or relationship issues, such as intimacy and partner rejection, is also the critical element in sexual avoidance patterns." Clearly such issues are not unique to PTSD, but difficulty with intimacy is such a pervasive problem for patients with PTSD as to arguably place such patients at especially high risk for sexual dysfunction.

There have been no studies comparing the prevalence of sexual dysfunction in patients with PTSD resulting from different types of trauma, and most articles have focused upon victims of combat-related PTSD. The subjects of nearly all of these have been veterans of Viet Nam having chronic PTSD of at least 10 years duration and typically having had PTSD for well in excess of 20 years. Uniquely, Kotler et al.[10] included patients of age 21 through 55, thus including at least some patients with much shorter duration of symptomology. Patients with PTSD from various types of traumatic events were included, but the study did not address symptom duration or type of precipitating trauma as potential influencing variables.

The nearly complete reliance upon older, long-term, PTSD patients for the investigation of PTSD-related sexual dysfunction has engendered two different types of potential confounding: patient age and symptom duration/chronicity. Most research has included only patients of age 40 and older, with precipitating trauma occurring 20 to 35 years in the past. No current research in this area was found; there have as yet been no reports in the literature of sexual dysfunction in Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans. Given that these conflicts are ongoing and began relatively recently, the issues of patient age and chronicity of PTSD symptoms are different from prior research.

METHODS

Clinical data from all OIF/OEF veterans treated in a residential PTSD treatment center from October 1, 2006 through September 30, 2007 were reviewed for manifestations of sexual dysfunction; this review included a total of 53 patients after exclusions as described below. Data were collected not as part of a formal study, but as part of the routine clinical interviews administered to all patients. Patients with combat experience in any prior conflict were excluded from aggregated data, even if there were no apparent symptoms of PTSD until after involvement in OIF/OEF. The program itself is a residential PTSD treatment program, serving individuals whose symptoms are sufficiently severe as to be judged too great for outpatient intervention. This program provides residential care to only male patients, thus limiting this examination to male gender. Patients included active duty Army (5),

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Marine (6), and Air Force (1) personnel, Army Reservists (37) brought back on active duty to participate in PTSD treatment ("MRP2" status), and Army (3) and Marine (1) veterans who had already been discharged from active duty.

Patient age ranged from 22 to 53 years, with a mean and a median age of 35 and 33, respectively. Patients had returned from combat deployment between 7 and 22 months before program entry, with a mean and a median of 14.2 and 14.5 months, respectively.

Program entry requires referral from a mental health provider who had made a diagnosis of PTSD. Diagnostic confirmation was conducted as part of the assessment at the residential treatment program, both by interview before program entry and by more extensive interview and assessment during the first week of treatment. All patients scored at least 50 on the PTSD checklist–military version.[11] As part of the routine clinical assessment upon program entry, patients were asked about three specific types of sexual dysfunction: loss of libido, erectile dysfunction, and ejaculatory delay and/or incompetence.

RESULTS

Aggregate data are summarized in Table I. At the time of assessment, only 11 patients were on or had been on psychotropic medication, and those patients were questioned as to any potential temporal relationship between medication and sexual dysfunction. Any sexual symptom that did not clearly predate initiation of medication was presumed to be a medication side effect and was therefore omitted from presented data. This resulted in the elimination of 4 patients from the data presented, all of whom had been prescribed selective serotonin reuptake inhibitors. To be included, decreased libido had to include decreased desire for masturbation, not just reduced interest in sexual relations with a partner, to minimize effects of intimacy and trust concerns. All patients endorsing sexual dysfunction asserted that the onset of such dysfunction was during or after their combat deployment. Only 2 patients were found to report normal or increased interest in masturbation in conjunction with diminished interest in relations with a partner, and those 2 patients were therefore not included in Table I.

Most patients experienced more than one manifestation of sexual dysfunction; there is a logical interrelationship among the different types of sexual dysfunction. With diminished libido it would be expected that there would be some difficulty with impotence and potential anorgasmia as judged by the patients. Only very infrequently did either erectile dysfunction or an ejaculatory delay (or incompetence) occur in the absence of decreased libido.

One of the six patients with "no sexual dysfunction" above reported that he did in fact experience difficulty with arousal when having relations with his significant other, but that he experienced no difficulty in arousal when involved with casual, extramarital partners.

Several patients with both decreased libido and erectile dysfunction reported that during sexual relations with their partner, an intrusive and very upsetting image would typically appear, and their autonomic and affective response to the image would terminate sexual relations and reduce their interest in further relations. Two patients reported that they had become extremely rough with their sexual partners, becoming aware of this only after sexual relations were complete when their partners complained and displayed bruises.

TABLE I. Prevalence of Sexual Dysfunction Symptoms ($n = 53$)

No Sexual Dysfunction	Decreased Libido	Erectile Dysfunction	Ejaculatory Problem
6	39	26	8

DISCUSSION

The observations of these 53 patients, 47 of whom endorsed sexual dysfunction, are consistent with prior examinations of patients suffering from chronic PTSD. This suggests that neither age-related factors nor other factors related to symptom chronicity are causative with respect to the sexual dysfunction observed in severe PTSD. These patients were generally younger, and the PTSD-precipitating trauma occurred much more recently than in prior studies. Therefore, other hypotheses must be developed to explain the sexual dysfunction associated with severe PTSD.

Yehuda et al.[12] demonstrated in a study of Viet Nam veterans that the three catecholamines, dopamine, norepinephrine, and epinephrine, were excreted at an elevated rate in patients with severe PTSD (PTSD inpatients compared to PTSD outpatients and nonpsychiatric controls) and that dopamine and epinephrine (but not norepinephrine) were significantly correlated with PTSD symptom severity overall. Given the parasympathetic phase of the normal sexual response, difficulties with both libido and impotence could be predicted on the basis of chronic autonomic arousal. Yehuda et al. go on to note that levels of these three catecholamines seem to be related particularly to intrusive symptoms, which may contribute to the phenomenon reported by patients mentioned above who experienced intrusive images during sexual relations.

Kotler et al.[10] also found that sexual dysfunction was strongly correlated with high scores on the anger–hostility subscale of the Symptom Checklist-90, going on to suggest, "It seems that PTSD patients with high levels of anger and hostility may have difficulty in achieving the degree of intimacy that is needed for satisfying sexual relations." This focuses attention upon the nearly invariably present intimacy difficulties experienced by victims of PTSD. In this regard, Riggs et al.[13] report, "Over 70% of the PTSD veterans and their partners reported clinically significant levels of relationship distress compared to only about 30% of the non-PTSD couples."

Available evidence thus suggests that at least these characteristics of PTSD may contribute to the observed sexual dysfunction: autonomic arousal, anger/hostility, and relationship difficulties. Clinical outcomes represent another realm of concern, however, in that Gruden and Gruden[14] report that without treatment intervention only 15% of the reported sexual dysfunction resolves, the majority being persistent. Pharmacologic intervention alone has not been demonstrated

to be effective. Kotler et al.[10] did find significant improvement in all realms of sexual dysfunction with oral sildenafil. But Orr et al.[15] found that although sildenafil was somewhat effective in treating the erectile dysfunction component of PTSD-related sexual dysfunction, no benefit was observed for sexual desire, orgasmic function, intercourse satisfaction, and overall satisfaction. Even those patients improving in terms of erectile functioning on oral sildenafil were still diagnosable as having erectile disorder, the benefit having been only partial.

In the residential PTSD program, treatment for the sexual dysfunction associated with PTSD consists of (1) an educational component and (2) treatment for PTSD itself and short-term use of vardenafil. The educational component addresses the various factors presumed to play a role in the etiology of PTSD-related sexual dysfunction. This includes chronic autonomic hyperarousal, issues related to trust and intimacy, and intrusive thoughts and memories when one's "guard is down." Education is fairly detailed, including discussion of the roles of both parasympathetic and sympathetic arousal, impact of performance anxiety, issues of intimacy, etc. When possible, the program includes education for the significant other. The treatment program is cognitively based with a trauma exposure component and includes biofeedback and desensitization in vivo experiences to facilitate re-entry into normal social functioning. Also inherent in the program are groups addressing communication skills, relaxation training, biofeedback, parenting, spirituality, issues of guilt and remorse, anger management, intimacy and fear thereof, etc. These serve to reduce the chronic autonomic hyperarousal as well as address the more cognitively related areas of difficulty. Finally, vardenafil is frequently prescribed on a short-term basis to help with the performance anxiety that seems almost ubiquitously to be present even after other concerns and issues have been addressed. Formal follow-up studies have not yet been performed, but anecdotal data suggest an overall positive outcome, correlated with efficacy of PTSD treatment itself, with need for vardenafil being transitory (2–4 months), as long as the patient responds well to the overall treatment for PTSD.

Clearly further study is needed in this area. While there are hypotheses regarding the etiology of the sexual dysfunction related to PTSD, solid research addressing the mechanisms is needed. Similarly, formal assessment of treatment methodologies with rigorous outcome analysis is required.

Given the small sample size in this study and its retrospective nature, it is impossible to discern in a valid manner the effects of prior trauma exposure, medical problems, service in Iraq versus Afghanistan, duration and intensity of combat exposure, ethnocultural issues, educational background, marital status, etc. No qualitative differences were noted between the group of 6 patients who denied sexual dysfunction and the 47 who endorsed sexual dysfunction, but these are areas for further exploration.

A major difficulty in studying this population of patients is comorbidity with alcohol misuse/abuse, major depressive disorder, and postconcussion syndrome. Most cohort members were using alcohol to considerable excess prior to admission. No difference was noted in prevalence of sexual dysfunction in those with and without excessive alcohol use, but the number of those not abusing alcohol was too small to allow statistical comparison. Most of the patients in this study screened positive for history of multiple traumatic brain injuries (almost exclusively by repeated exposure to improvised explosive device blasts). Most also met diagnostic criteria for major depressive disorder, which is true of nearly all patients admitted to this program for severe PTSD. The overlap of symptoms among these latter three conditions makes both differential diagnosis and elaboration of causative relationships both difficult and important.

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